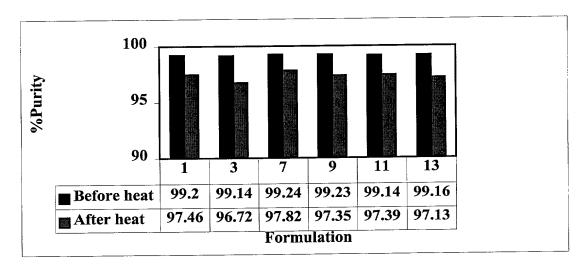
Figure 1. Amino acids screening in buffers using heat stress.



Formulation

- 1. 10 mM Phosphate, 10 mM Glu
- 3. 10 mM Phosphate, 10 mM Citrate
- 7. 10 mM Phosphate, 10 mM Ser
- 9. 10 mM Phosphate, 10 mM Pro
- 11. 10 mM Phosphate, 10 mM His
- 13. 10 mM Phosphate, 10 mM Gly

Figure 2. Screening of buffers using heat stress.

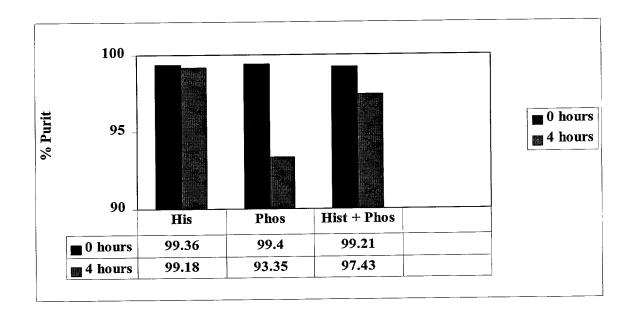
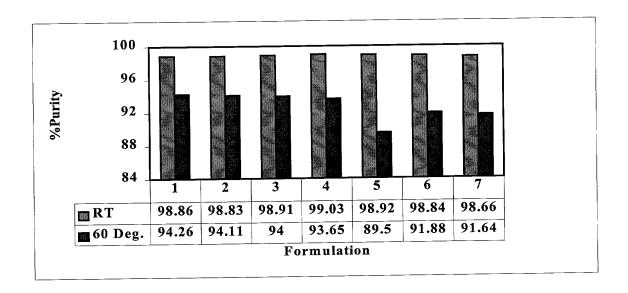


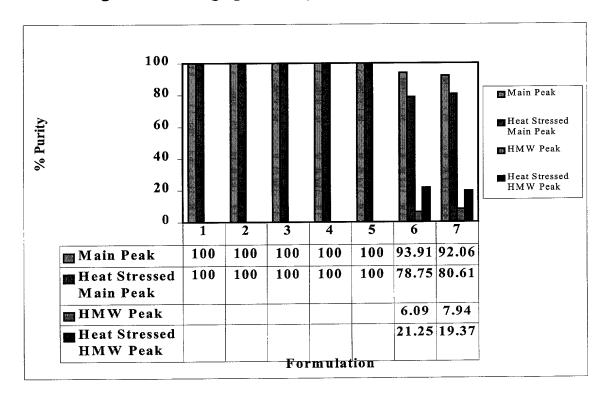
Figure 3. Screening of Bulking agents analyzed by RP-HPLC.



Formulation

- 1. 25 mM Histidine, 35 mM phosphate, 3% Mannitol
- 2. 50 mM Histidine, 35 mM phosphate, 3% Mannitol
- 3. 75 mM Histidine, 35 mM phosphate, 3% Mannitol
- 4. 25 mM Histidine, 25 mM phosphate, 3% sucrose
- 5. 25 mM Histidine, 25 mM phosphate, 3% trehalose
- 6. 25 mM Histidine, 25 mM phosphate, 3% maltose
- 7. 25 mM Histidine, 25 mM phosphate, 3% lactose

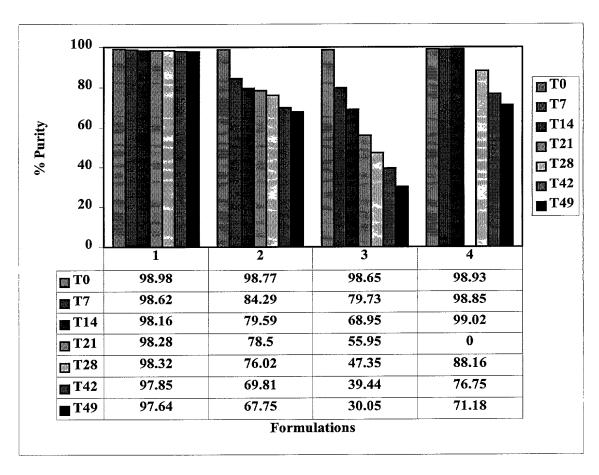
Figure 4. Bulking agents analyzed by SE-HPLC.



Formulation

- 1. 25 mM Histidine, 35 mM phosphate, 3% Mannitol
- 2. 50 mM Histidine, 35 mM phosphate, 3% Mannitol
- 3. 75 mM Histidine, 35 mM phosphate, 3% Mannitol
- 4. 25 mM Histidine, 25 mM phosphate, 3% sucrose
- 5. 25 mM Histidine, 25 mM phosphate, 3% trehalose
- 6. 25 mM Histidine, 25 mM phosphate, 3% maltose
- 7. 25 mM Histidine, 25 mM phosphate, 3% lactose

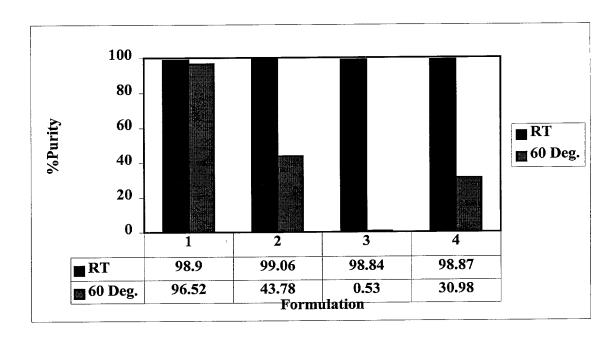
Figure 5. Stability of liquid formulations stored at 4 °C.



Formulations

- 1. 35 mM Phosphate, 50 mM Histidine, 3% Mannitol, pH 7.4
- 2. 35 mM Phosphate, 50 mM Histidine, 5% Sucrose, pH 7.4
- 3. 35 mM Phosphate, 25 mM Lysine, 3% Mannitol, pH 7.4
- 4. 35 mM Phosphate, 25 mM Lysine, 5% Mannitol, pH 7.4

Figure 6. Heat stressed samples.



Formulations

- 1. 35 mM Phosphate, 50 mM Histidine, 3% Mannitol, pH 7.4
- 2. 35 mM Phosphate, 50 mM Histidine, 5% Sucrose, pH 7.4
- 3. 35 mM Phosphate, 25 mM Lysine, 3% Mannitol, pH 7.4
- 4. 35 mM Phosphate, 25 mM Lysine, 5% Mannitol, pH 7.4